

# CUSTOMER **Circuit**

SPRING 2019

WESTERN AREA POWER ADMINISTRATION



## Positioning WAPA for the connected future

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Supervisory Energy Management and Marketing Specialist John Paulsen (standing) facilitated one of the many group discussions that drove the Markets in the West Workshop April 9-10 in Phoenix, Arizona.

## Markets workshop brings customers together to discuss future

Story and photo by Jen Neville

**P**articipants from across WAPA's 15-state service territory gathered at the Desert Southwest office in Phoenix April 9-10 for the Markets in the West Workshop. Discussions focused on talk about objectives and concerns surrounding the changing landscape of the Western Interconnection.

"This workshop was an opportunity for customers to learn from each other and openly discuss and debate the best future for WAPA and our customers," said Power Marketing Advisor Rodney Bailey, who led the workshop. "There were no predetermined solutions going in to the workshop, and that is still true."

More than 80 participants engaged in robust, collaborative conversations focusing on key topics related to the future of energy markets. "It was particularly interesting to hear the broad spectrum of viewpoints among the WAPA customers based on whether they were already participating in organized markets or are contemplating market participation," said Mid-West Electric Consumers Association Executive Director Bill Drummond.

"While the WAPA customers have a commonality of interest in maintaining access to cost-based preference power from WAPA, there are definitely different experiences and understanding between those two groups."

### Reasons to discuss markets

Faced with the growth of renewable generation and the decline in coal generation, as well as a continually evolving regulatory environment, many utilities in the West are looking at how markets might benefit their operations. In general, it is believed that a well-structured market will allow greater load and resource diversification across the market footprint, permit greater variable energy integration and increase cost transparency and efficiency.

"At our annual customer meeting in December, we received multiple requests to have more conversations about markets," said Administrator and CEO Mark A. Gabriel. "Everywhere we look, the industry is undergoing significant changes—changes that will create a grid that is smarter, more complex and more integrated than ever before. This workshop was an opportunity for us to look into the crystal ball together, to share our thoughts and talk collaboratively about the common objectives and goals we share for the future."

Here is a quick summary of workshop participants' discussions:

1. **Current state:** The Western Interconnection mostly runs a bilateral trading market.
2. **Background and experience:** Although there is not a fully integrated market currently, many entities in the West now have more than 20 years' experience working on markets.



3. **Market perspectives:** Workshop participants see a need to get a market done.
4. **Pros and cons:** Participants identified lots of opportunities and risks for joining or creating a market, as well as risks associated with inaction.
5. **Common goal:** Workshop participants discussed the need to stay focused on the goal of exploring markets together and leveraging commonalities.
6. **Early engagement:** Workshop participants expressed the need to be at the table early to help with a market design that is advantageous to their companies.
7. **More education needed:** Participants requested that WAPA continue to help customers by providing more educational material and opportunities to talk about markets, and perhaps even involve regional groups in more regional workshops.

This was WAPA's third customer-focused discussion on markets since 2014, and customer feedback indicates that interest in the topic is increasing. For more information about the Markets in the West Workshop and to see the summary notes and workshop materials, visit the Markets in the West Workshop webpage on [wapa.gov](http://wapa.gov), **The Source**.

Customers who have specific questions can contact their regional vice president of Power Marketing.

## On-demand: Educational market-related videos

To prepare participants for the two-day workshop, WAPA developed an educational video series. These short video modules provide background information on the bulk electric system, how the Western Interconnection operates today and different types of market constructs. These videos are available to all customers interested in understanding how the Western Interconnection works and the different market constructs in the utility energy sector. Visit [wapa.gov/About/the-source/Pages/markets-west-workshop.aspx](http://wapa.gov/About/the-source/Pages/markets-west-workshop.aspx) for regular updates.



## MARKET CONSTRUCTS OVERVIEW

Bilateral markets	Energy imbalance markets	Fully integrated markets
<p>The purchasing and selling of energy and transmission between at least two parties through contracts.</p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>■ Transmission transactions: 'Contract path' (legal) vs. 'flow-based' (physics).</li> <li>■ Transmission operations: Controlled within smaller 'footprints' (i.e. balancing authorities, or BAs).</li> <li>■ No central market-clearing entity</li> <li>■ Reliability function: Each BA must balance loads and resources within its borders.</li> <li>■ Energy contracts: Between a discrete number of parties (usually two).</li> </ul>	<p>A real-time energy market that dispatches the lowest-cost resources to resolve real-time differences between supply and demand using an automated security constrained economic dispatch and helps to maintain system reliability.</p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>■ Market transactions: Centrally managed using flow-based economic solutions for a diverse pool of resources.</li> <li>■ Transmission operations: Leverages bilateral market, and excess transmission capacity is made available via the EIM.</li> <li>■ Generation is dispatched at five- and 15-minute increments.</li> <li>■ Reliability function: The market dispatches resources across BAs to balance energy and optimizes regulating reserves.</li> <li>■ Energy contracts: Leverages existing bilateral market's discrete contracts, plus the option of participation in the EIM real-time market.</li> </ul>	<p>An integrated marketplace in which participants buy and sell wholesale electricity and ancillary services a day ahead and in real time.</p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>■ Market transactions: Optimally managed for both reliability and economics by neutral entity that doesn't own assets.</li> <li>■ Transmission operations: Centrally managed and coordinated with the BA balancing solutions by neutral entity that doesn't own assets.</li> <li>■ Operator has visibility and control over the transmission and generation assets to mitigate constraints in the most reliable, efficient and economic solution.</li> <li>■ Reliability function: Centralized for using the integrated market.</li> <li>■ Market pricing is publicly available in both day-ahead and real-time.</li> </ul>



Administrators for the power marketing administrations: Elliot Mainzer, Bonneville Power Administration; Kenneth Legg, Southeastern Power Administration; Mike Wech, Southwestern Power Administration; Mark A. Gabriel, Western Area Power Administration.

## Congressional testimony highlights WAPA's accomplishments, priorities

**W**hen the administrators of the power marketing administrations appeared before the House Committee on Natural Resources' Subcommittee on Energy and Mineral Resources March 12, the budget was not on the agenda. Instead, the oversight hearing gave Administrator and CEO Mark A. Gabriel the opportunity to share with Congress WAPA's accomplishments and plans to keep pace with changes in the energy industry.

### Rates stable, balances appropriate, transparency laudable

Foremost among those accomplishments was maintaining stable or even decreasing rates for nearly 80 percent of WAPA's customers and continuing to return money to the

Treasury. Since 2013, WAPA has returned \$1.8 billion to recover the original investment in the nation's dam and energy infrastructure.

WAPA is progressing toward an appropriate level of reserve balances to protect customers from fluctuating prices due to uncertain water conditions and to help fund annual operations, maintenance and capital construction projects. WAPA's reserve funding strategy targets three distinct risk-mitigation needs: annual operation and maintenance expenses, capital investments and purchase power and wheeling. Years of diligent planning and working with Congress have eliminated excess annual operations and maintenance balances. The capital investment balance remained stable, while purchase power and wheeling increased to \$325 million.

Stakeholders can find that information and more on The Source, WAPA's online, one-stop shop for financial and operational information. The Source was updated in 2018 to include a decade's worth of financial data, an effort Rep. Paul Gosar of Arizona praised during Gabriel's testimony. WAPA's transparency efforts were also recognized with a Corporate Social Responsibility award for organizational

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transparency by a leading international public relations firm and a Gears of Government Award from the Office of Management and Budget and General Services Administration.

### **Answering calls for help**

WAPA's emergency response is another accomplishment that justifiably inspires pride. Gabriel testified regarding the activation of WAPA employees to support power restoration in Hawaii, Guam and the Northern Mariana Islands as part of the Federal Emergency Management Agency's disaster-response teams in 2018. The teams carry out Emergency Support Function-12 responsibilities within the National Response Framework, coordinating with FEMA and the local utilities on power restoration plans. Those responsibilities include removing barriers to acquiring and transporting equipment and material. The teams also visit work crews to identify priorities and needed materials.

Sierra Nevada employees responded to July's Carr Fire in northern California, which directly affected WAPA's system. In an unprecedented situation, 15 transmission lines and eight substations were out of service. Despite the challenges, WAPA continued supplying power to the area, working with utilities to keep as many people energized as possible.

### **Protecting grid, managing assets**

Gabriel also shared details about WAPA's maturing security efforts. WAPA has taken a holistic approach to cybersecurity and physical security, optimizing interdependencies

between its Cyber Security, Physical Security and Asset Management programs. Measures in each of these areas complement and strengthen the others, containing costs and achieving more effective protection for WAPA's extensive assets.

WAPA has been active in various forums on grid security, networking and sharing best practices with other power providers and industry allies. New technologies are being evaluated for their potential to improve the efficiency, security and effectiveness of the electric grid. In the face of growing wildfire threats, WAPA is reviewing its vegetation management programs and working with state and federal entities to prevent fires caused by powerlines.

WAPA's Asset Management program oversees \$4.3 billion in assets and will play a critical role in the investment of \$1.6 billion in infrastructure over the next 10 years. Data collected by the program will drive well-informed, prudent and realistic investments in a system that supports WAPA's mission. The bulk of the investments will be in backbone transmission assets—maintaining and upgrading more than 100,000 structures along WAPA's 17,200 miles of transmission lines, 322 substations and 291 high-voltage transformers.

In conclusion, Gabriel noted that close collaboration and mutually beneficial partnerships are central to WAPA's success in today's increasingly complex and connected world. Through respectful and transparent cooperation with its customers and others—by seeking, sharing and partnering—WAPA will remain a premier supplier of power and transmission services at the lowest cost consistent with sound business principles.





## WAPA creates program to grow next generation of leaders

**A** truly effective workforce does not grow on a tree, but it does require careful cultivation. WAPA's 2019 Tactical Action Plan acknowledges this need by including People and Organization as a strategic target area and leadership development as an initiative within this area.

### Filling the gap

The leadership development recommendation was created in response to the Federal Employee Viewpoint Survey and WAPA culture assessment. "A taskforce was formed to evaluate our program and through its assessment; it identi-

fied a gap in growing leaders from early in their careers," said Management and Program Analyst Stacey Decker, who is leading the taskforce. "The taskforce consisted of WAPA employees who are passionate about putting the resources in place to advance WAPA's leadership."

WAPA will continue to offer its existing professional development programs, which target employees at later stages of their careers. The Executive Leadership Development program targets midlevel managers looking to advance. The Leadership Emergence and Development program gives high-performing employees who are interested in leadership the opportunity to grow their skills and understanding of the organization. "To achieve the desired leadership culture, we must begin nurturing the culture and building the right competencies early in our employees' careers," said Decker.



The Leadership Development Taskforce was formed to provide recommendations to enhance WAPA's overarching leadership development program. Members were selected from across WAPA's regions and functional areas to ensure broad representation. (Photo provided by Stacey Decker)

## Choosing strategies, tools

In 2018, WAPA's senior managers established a taskforce to lay the groundwork for a comprehensive and inclusive new leadership program. The taskforce delivered a list of recommendations, a competency model and measures of success last fall, along with a plan for phased implementation of a Leadership Development program.

The objectives of the new Leadership Development program are:

- Cultivate learning and leadership by developing authentic leaders who embody WAPA's core values and leadership competencies.
- Advance effectiveness and ensure mission success.
- Create opportunities that enable employee potential.
- Develop the current and next generation of leaders.
- Attract and retain top talent.

Based on best practices, the program will incorporate new offerings, mentoring, executive coaching and an online toolkit for employees and supervisors. The toolkit will support leadership competency development, career and succession planning, and selection into development programs and leadership positions.

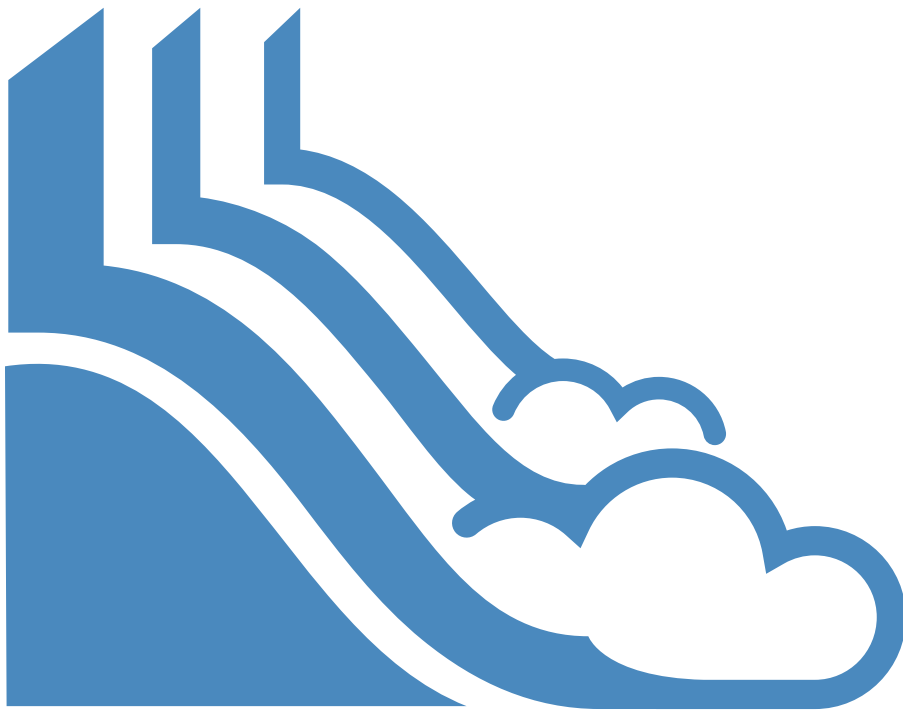
## Workforce not built in a day

The taskforce recommended implementing the Leadership Development program over a three-year period to allow for strategic planning and thoughtful evaluation at each step. "We are standing up a program that is intended to provide WAPA with the workforce needed to carry its mission into the future," explained Decker. "Taking a phased-in approach ensures that we will get the full value of our efforts."

It will be important to continuously measure success of the program to ensure it is meeting WAPA's needs. A successful program will increase the organization's "bench strength" of employees who are ready to advance into leadership roles as others retire. It will also improve the effectiveness of leadership and employee satisfaction.

Like the rest of the utility industry, WAPA is facing the challenge of replenishing an aging workforce with fresh recruits who bring new skills and historic commitment to the job of keeping the lights on. By supporting the ongoing development of its employees and organization through initiatives like the Leadership Development program, WAPA will continue to evolve its services to meet customer needs.





## Customers get affordable power through crediting

**T**here are as many ways for a community to benefit from clean, cost-based hydropower as there are communities WAPA serves. Figuring out how to deliver those benefits to unique customers can pose a challenge but ultimately lead to creative, flexible strategies such as WAPA's bill crediting and benefit crediting programs.

Since 2005, these programs have allowed Native American tribes to receive a hydropower allocation without having their own utilities. Under bill crediting, WAPA delivers a tribe's lower-cost hydropower allocation to the utility serving the tribe, displacing an equal amount of electricity that the utility would have acquired from other, more expensive sources. The tribe designates tribal members to receive the credit from the program on their monthly power bills.

Benefit crediting is calculated similarly to bill crediting, but the utility pays the tribe the difference between the hydropower and the resource the utility would have had to acquire otherwise. The tribe then uses the payment for the benefit of its members. This strategy comes with lower administrative costs to the serving utility than bill crediting.

### Tribes choose how to use credit

Currently, there are 53 tribes in WAPA's Colorado River Storage Project Management Center territory that receive allocations, 46 of them through benefit crediting.

Tribes use their discretion in how to spend their benefit credit, explained Public Utilities Specialist Lyle Johnson who administers the program for the center. "Most use it as general funds for tribal expenses," he said, "but some apply it to specific 'public works' projects."

The Alamo Navajo chapter in Magdalena, New Mexico, used the money to buy a backhoe for its residential water utility, for example.

"Their old backhoe kept breaking down," explained Johnson. "Their monthly credit was just enough to cover a new one."

The uses of the benefit credit are as varied as the imagination—and the needs—of the tribes receiving it. For the Ramah Navajo chapter in west central New Mexico, the unrestricted revenues have funded tribal land expansion, economic development initiatives and matching funds for infrastructure projects.

The WAPA payments represented more than 5% of the total construction costs of a new tribal corrections facility and were used to rehabilitate a self-sustaining well.

The Ramah Band's future plans for its benefit credit include investing in a fiber optic network to bring technology and communication to the community. "The goal is for the tribe to become the owner of the fiber optic lines so we can bill for the service," explained Ramah Band Chief Financial Officer Earla Begay. "Those funds, in turn, can be used to support other vital services."

Other tribes, such as the Acoma Pueblo, west of Albuquerque, New Mexico, are putting their credit toward



establishing their own utilities. Launching a new utility is a lengthy, expensive and complicated process, yet many tribes are willing to go through it to gain energy independence and self-sufficiency.

The economic and logistic barriers to setting up a tribal utility are many—acquiring a distribution system, obtaining power supply contracts or building or investing in generation and hiring or training staff.

CRSP MC has five tribal utilities among its customers with a sixth preparing to start service in January 2020 and a seventh currently building transmission. In many cases, benefit crediting has helped tribes move toward greater energy independence, either with or without a self-owned utility.

### **Cooperation removes barriers**

In 1995, adopting the Energy Policy Act allowed WAPA to make federal hydropower available to tribes, but that alone was not enough to overcome the obstacles to delivering it.

WAPA engaged in an extensive public process over the next several years, working with tribes and their servicing utilities to develop procedures that allow tribes to receive

an allocation regardless of their utility status. The first was bill crediting, but some local utilities found that administrative costs of the program canceled out the savings of the lower-cost resource. The benefit crediting strategy provided an alternative that worked for many tribes as well as their utilities.

The cooperation of power providers is essential to the success of these programs. The arrangements allow some WAPA customers, such as the Navajo Tribal Utility Authority and the city of Page, Arizona, to save on wheeling and other transmission charges.

WAPA also allows tribes to pool their allocations with other utilities to benefit both entities. Other power wholesalers, including Tri-State Generation and Transmission Association and the Salt River Project, deliver the benefit to tribal customers simply as part of doing business.

Benefit and bill crediting represent the kind of collaboration and innovation that will be increasingly essential to navigating the future of the electricity industry. Fortunately, WAPA and its customers have already shown that they know how to seek, share and partner to provide value to stakeholders across the West.



**The Ramah Navajo chapter used its benefit credit to help fund the construction of a new adult correctional facility. The Ramah Band is looking at investing the credit to build its own fiber optic network in the future. (Photo provided by the Ramah Navajo)**



The Electric Power Training Center's new logo reflects the change and growth coming to the facility. EPTC Staff: (standing) Instructor Kurt Daniel, Instructor Tim Slater, Craft Training Coordinator Jim Bonner, Engineer Joe Liberatore; (sitting) Management Analyst/Training Coordinator Lisa Yuma, EPTC Manager Kyle Conway, Administrative Analyst Leah Wilson.

## EPTC springs forward with new classes, new logo

For decades, craftsmen and other electricity industry professionals have relied on WAPA's Electric Power Training Center to meet their needs for comprehensive training. Every year brings new needs due to changing technology, standards and certification requirements. The EPTC is responding by partnering with other training organizations to expand course offerings and has recently adopted a fresh, new logo to symbolize that growth.

### New logo bridges brands

The new logo represents the final stage of a three-year process to create a unified identity for WAPA across all communication platforms. It features the center's stylized initials splitting a field of blue, representing hydropower, and green, symbolizing WAPA's 15-state territory and environmental stewardship. Appearing near the graphic—either beside or below it, depending on the format—are the words, "Western Area Power Administration."



**Western Area  
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The compact design makes a clear connection between WAPA and the EPTC while accommodating the many ways in which the logo will be used. "Both WAPA and the EPTC have strong positive name recognition individually," explained EPTC Manager Kyle Conroy. "With the updated logo, we are aiming to cement the relationship between the two entities in the minds of our partners and students."

To choose the new logo, EPTC staff and Public Affairs specialists employed the decision framework, a process WAPA recently adopted to bring greater structure to decision making. The steps include defining the objectives, decision makers, context and timeline for the decision; identifying the criteria for success and the options, risks and stakeholders involved; evaluating the pros and cons of the options based on the criteria; and, finally, deciding. The process produced a logo that will look just as clean and professional on the wall near the EPTC receptionist station as it does on staff polo shirts and class presentation slides.





The EPTC's live miniature power system offers students a unique hands-on learning opportunity to troubleshoot and respond to problems on the power grid.

## Specialized training, new classes grow schedule

The EPTC's busy upcoming schedule will give students plenty of opportunity to check out the updated logo. In addition to the regular courses, the coming months will see EPTC hosting specialty classes presented by power industry training providers.

Instructors can sign up for the Systematic Approach to Training course being presented in cooperation with Quality Training Systems July 30-Aug. 2. This train-the-trainer workshop is designed to help training professionals from different backgrounds understand how SAT concepts translate into effective language for training in any field. On Aug. 20-21, QTS will present Simulator Training Techniques, a two-day workshop on creating simulator training scenarios.

Other upcoming courses include HP 101, a free class tentatively scheduled for June 5. The course is intended to introduce electricity professionals to the human performance initiative. This is an industrywide effort to make tools for avoiding human error and increasing safety,

such as STAR (stop, think, act, review), an integral part of workplace culture. "These are practices and protocols operators and maintenance crews have been employing for years," Conroy noted. "The fresh perspective on familiar information can help to validate what students may have learned only informally."

In addition to the specialty classes, the EPTC has added two new courses to the schedule— Electrical Fundamentals June 17-21 and Switching and Grounding Aug. 26-30. Conroy added that the EPTC will be looking for more opportunities to expand and diversify the schedule, including seeking out and hosting training events designed for specific needs. "Changing the logo and exploring new strategies to meet industry training needs is just part of EPTC's continuing commitment to remaining one of the premier training resources in the utility industry," he said.

For more information about upcoming classes at EPTC, email [eptc@wapa.gov](mailto:eptc@wapa.gov) or call 800.867.2617.

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